

WE CLAIM:

- 1 1. A polynucleotide vector comprising a multiple response element (MRE),
2 a cAMP response element, and a serum response element (SRE).
- 1 2. The vector of claim 1, wherein the SRE comprise a sequence of
2 CCXXXXXXGG (SEQ ID NO: 1) wherein X is A or T.
- 1 3. The vector of claim 1, wherein the SRE is from human *c-fos* gene.
- 1 4. The vector of claim 1, wherein the SRE comprises a sequence of
2 CCATATTAGG (SEQ ID NO: 5).
- 1 5. The vector of claim 1, further comprising a reporter gene operably
2 linked to the MRE, the CRE, and the SRE.
- 1 6. The vector of claim 5, wherein the reporter gene is a luciferase gene.
- 1 7. A host cell comprising a polynucleotide vector that comprises a multiple
2 response element (MRE), a cAMP response element, and a serum response element (SRE).
- 1 8. The host cell of claim 7 which is human embryo kidney 293 (HEK-293)
2 cell stably transfected with the vector.
- 1 9. The host cell of claim 7, further comprising an exogenous G protein
2 coupled receptor.
- 1 10. The host cell of claim 9, wherein the G protein coupled receptor is
2 encoded by a polynucleotide introduced into the host cell.
- 1 11. The host cell of claim 7, further comprising a reporter gene operably
2 linked to the MRE, the CRE, and the SRE.

1 **12.** A method for identifying a modulator of a G protein coupled receptor
2 (GPCR), comprising (i) contacting a test agent with a host cell comprising the GPCR and a
3 universal GPCR reporter vector, and (ii) identifying a change of expression level of a
4 reporter gene from the vector relative to expression level of the reporter gene in the absence
5 of the biological sample; thereby identifying a modulator of the GPCR; wherein the GPCR
6 reporter vector comprises a MRE, a CRE, and a SRE.

1 **13.** The method of claim 12, wherein the reporter gene is operably linked to
2 the MRE, the CRE, and the SRE elements in the vector.

1 **14.** The method of claim 12, wherein the GPCR is heterologous to the host
2 cell.

1 **15.** The method of claim 14, wherein the GPCR is expressed from a second
2 vector that has been introduced into the cell.

1 **16.** The method of claim 12, wherein the GPCR is a Gi-coupled receptor, a
2 Gs-coupled receptor, or a Gs-coupled receptor.

1 **17.** The method of claim 12, wherein the modulator is an agonist of the
2 GPCR.

1 **18.** The method of claim 12, wherein the modulator is an antagonist of the
2 GPCR.

1 **19.** The method of claim 12, wherein the host cell is HEK-293 cell.

20. The method of claim 12, wherein the reporter gene is a luciferase gene.